REMARKS/ARGUMENT

Request for Personal Interview:

Attached hereto is a Form PTOL-413A. Applicants' representative will contact the Examiner by telephone to set a mutually convenient date and time.

Regarding the Claims in General:

Claims 2-4, 10, and 11 are pending. No amendments for these claims are proposed herein. Claims 7-9, directed to a non-elected invention, are cancelled hereby without prejudice. The application is now believed to be in condition for allowance, and entry of this Amendment for that purpose is respectfully requested.

Applicants note with appreciation the indication that claim 4 would be allowable if rewritten in independent form incorporating the limitation of its parent claims. As this claim is dependent on claim 10 which is believed to be patentable, claim 4 is being retained in dependent form pending further consideration by the Examiner.

Regarding the Prior Art Rejections:

Applicants respectfully requests reconsideration of the rejection of claim 2, 3, 10, and 11 as anticipated by Shimizu et al. U.S. Patent 4,044,984 (Shimizu), Tetreault et al. U.S. Patent 5,997,798 (Tetreault), Peters et al. U.S. Patent 6,019,588 (Peters), and of claim 11 as anticipated by Schmidt U.S. Patent 4,697,784 (Schmidt), Baird U.S. Patent 5,059,105 (Baird), Nishihara et al. U.S. Patent 5,779,958 (Nishihara) or Steijer et al. U.S. Patent 6,193,493 (Steijer).

Preliminarily, however, applicants remain concerned that the four pending claims are still being rejected as anticipated by no less than *seven* separate references. It is not understood how this can be justified in light of the clear directive of M.P.E.P. 706.02. This issue was raised in response to the previous Office Action but has not been addressed by the Examiner.

In any event, despite the massive bombardment of prior art, the fact remains that, when properly interpreted, the references do not anticipate the invention as claimed herein.

It is respectfully submitted that the Examiner has given unduly broad interpretation of a key feature of the claims. In particular, claim 10 is directed to a mold comprising:

> two mold halves,
>
> the mold including portions configured to define the shape of a cavity which receives molding material for encapsulating a semiconductor chip;
>
> one of the mold halves including an aperture extending therethrough and
>
> a contact member formed of a compressible material, and positioned in the aperture,
>
> the contact member being so shaped and positioned that it is in contact with a surface of a semiconductor chip being encapsulated in the mold.

Independent claim 11 is similar, except that this claim requires that:

> "the portion of the contact member which is in contact with the portion of the surface of the semiconductor chip is so profiled as to minimize seepage of molding material onto the portion of the surface of the semiconductor chip during molding."

None of the seven references as applied to the claims teaches or suggests a mold in which one of the mold halves includes an *aperture extending therethrough* with a member positioned in the aperture, the member being "so shaped and positioned that it is in contact with a surface of a semiconductor chip being encapsulated in the mold", or "so profiled as to minimize seepage of molding material onto the portion of the surface of the semiconductor chip during molding."

The claimed *aperture* is not the same thing as a recess or a cavity. The Merriam-Webster Dictionary, Online Edition, 2004, defines *aperture* as "an opening or open space : hole." In contrast, it also defines *recess* as "an indentation, cleft", and *cavity* as "an unfilled space within a mass; especially : a hollowed-out space."

In each reference as applied, except for Steijer, what the examiner calls the contact member is in a recess or cavity, not in an aperture through one of the mold sections. Steijer, however, is distinguishable for other reasons as indicated below.

Also, except in the case of Tetreault, the contact portion (which is not in an aperture in any event), does not touch the chip itself, but instead touches a lead frame or some other carrier.

The following specific differences exist between the rejected claims and the seven references:

Shimizu (applied against claims 2, 3, 10, 11): Element 13 is a mold cavity block, and element 20 is a lead frame, not a chip. Mold insert 13 is in a cavity or recess, not an aperture, and it is in contact with the lead frame. It does not contact the chip, and is not profiled to prevent seepage of molding material onto the chip.

Schmid (applied against claim 11): Elements 34, 64b are mold inserts, and element 106 is the wafer. No part of either insert is in contact with wafer 106, and they are not profiled to prevent seepage of molding material onto the chip. Also, the inserts are in recesses, not in apertures.

Baird (applied against claim 11): What examiner refers to as contact sections 12, 13 are the actual cavity plates which define the mold cavities. These are located in recesses or cavities, not apertures. The semiconductor device 14 of Fig. 1 includes a diode 18 soldered to heat sinks 16 and 17. Cavity plates 12 and 13 touch heat sinks 16 and 17, and not diode 18, and are not profiled to prevent seepage of molding material onto the chip (diode).

Nishihara et al. (applied against claim 11) : Plate 24 contacts a substrate 2, not chip 3, and is not profiled to prevent seepage of molding material onto the chip.

Tetreault (applied against claims 2, 3, 10, 11): Figs. 5 and 7 show a mold insert 26 which contacts semiconductor device 46. However, this is in a recess or cavity, not in an aperture.

Peters et al. (applied against claims 2. 3. 10, 11): What the examiner calls a semiconductor chip is actually a carrier 4 on which a chip is arranged for molding (see col. 2, lines 61-62), not a chip per se. What the examiner calls a contact member is actually a compensation element in the form of a spring ring 11 which holds carrier 4 in place by pressing it against the peripheral edge 12 of upper mold part 3 (see Col. 3, lines 3-9). It is not in contact with the chip. Also, the compensation member is in a recess or cavity, not an aperture, and is not profiled to prevent seepage of molding material onto the chip.

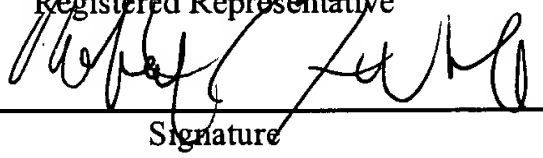
Steijer et al. (applied against claim 11): What the examiner calls a silicon wafer is an optocomponent 5 which is comprised of a substrate plate on which passive or preferably active components (not shown) are mounted. What the examiner calls contact members are guide pins 7 which fit into grooves in the substrate plate (see col. 5, lines 51-63). The guide pins are not in contact with the circuit devices themselves, and are not profiled to minimize seepage of molding compound onto parts of the circuit devices.

It has been demonstrated above that claims 2, 3, 10, and 11 clearly distinguish the present invention from the cited prior art, and therefore should be allowed, along with claim 4. Since non-elected claims 7-9 are canceled hereby, entry of this amendment will place the application in condition for allowance

In view of the foregoing, favorable reconsideration, entry of this Amendment, and allowance of this application are respectfully solicited.

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as First Class Mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on June 14, 2004:

Robert C. Faber
Name of applicant, assignee or Registered Representative



Signature

June 14, 2004
Date of Signature

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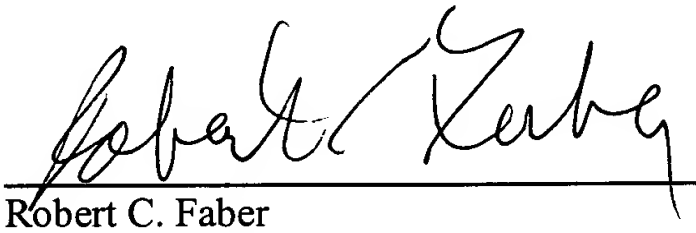
Respectfully submitted,



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